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ABSTRACT

How teachers evaluate the various instructional methods at their disposal is the question addressed in this paper. The issue is examined in an effort to determine which of certain models of teaching some teachers prefer, how teachers categorize models of teaching, and which factors are associated with their preferences. Results suggest that role ideals and philosophical beliefs both are systematically related to preferences, that philosophical beliefs may influence teachers more than teacher educators generally recognize, and that teachers currently focus on basic skills issues in making preference decisions. (Author/JD)

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The Instructional Strategy Decisions of Teachers

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ABSTRACT

Surprisingly little is known about how teachers evaluate the various instructional methods at their disposal. The study addressed this issue in an effort to determine which of certain models of teaching some teachers prefer, how teachers categorize models of teaching, and which factors are associated with their preferences. Results suggest the role ideals and philosophical beliefs both are systematically related to preferences, that philosophical beliefs may influence teachers more than teacher educators generally recognize, and that teachers currently focus on basic skills issues in making preference decisions.

Clark (1978) has argued that it is important to understand teachers' decision-making processes, because "teacher behavior that is sensible and effective in one setting may be inappropriate in another setting, and it is the individual teacher who makes decisions about appropriateness and defines the teaching situation." Unfortunately, there is substantially more conjecture than hard evidence regarding how teachers view models of teaching or which variables are associated with teachers' preferences for various models of teaching. As Joyce (1978) notes, "there have been relatively few investigations of the thinking patterns of teachers."

The literature generally reflects a strong emphasis on using actual teacher behaviors as a data base for most investigations. Although this emphasis may be appropriate for determining which teacher behaviors are related to student achievement, for two reasons this sort of data will not support inquiry regarding teachers' preferences for various instructional approaches. First, many researchers inappropriately assume that the level of data they employ in their studies has psychological meaning for teachers. While low-inference measures such as counts of statements praising students may be reliable, there is no evidence that teachers even can attend to most classroom behaviors at this level of specificity. Too many situational demands

compete for attention in a classroom. In fact, research (cf. Moskowitz, 1967) indicates that teacher effectiveness can be improved by providing teachers with feedback based on interaction analysis of classroom activities, and this feedback probably would be less helpful if teachers normally could attend to minute classroom behaviors without the assistance of feedback.

Second, some researchers inappropriately assume that teachers have unrestricted freedom to select the instructional approaches they will use in their classrooms, and that consequently behaviors only reflect preferences. However, as Joyce (1969) indicates, teachers must cope with a complete amalgm of social, institutional, and other needs when teaching. Schools likewise feel pressured to insure that teachers are effective. Consequently, teachers may choose or be required to select their instructional approaches from among more conventional methods, because if desired outcomes are not achieved the burden of failure can then be more easily shared with students or institutions. Certainly, the amount of academic freedom which teachers enjoy is situation-specific, but few if any teachers have unrestricted freedom.

The study reported here was conducted so as hopefully to avoid these pitfalls. The study focused on teachers' perceptions of global

teaching methods rather than on preferences for minute, highly specific behaviors. Since the study sought to promote understanding of how teachers perceive instruction, emphasis was placed on examining how teachers want to teach rather than on how they feel they ought to teach given situation-specific influences. Specifically, the study addressed three questions. First, if teachers could employ any model(s) of teaching, which ones would they generally prefer to use? Second, how do teachers categorize various models of teaching? Third, what role ideals and philosophical beliefs are associated with preferences for the various categories of models of teaching?

The last question is based on a theoretical expectation that both role ideals and philosophical beliefs are associated with preferences for various models of teaching. The characteristics which teachers ascribe to ideal teachers should be associated with the preferences which teachers have for various models of teaching, and philosophical beliefs should also be associated with teaching preferences, because these variables all at least partly involve value judgments regarding the proper ends and methods of education. As Joyce and Weil (1972) suggest, "educational procedures are generated from general views about human nature and about the kinds of goals and environments that enhance human beings."

Method

Subjects

The 235 teachers who participated in the study included 127 persons certified to teach only at the elementary school level, 106 persons certified to teach only at the secondary school level, and two persons who were certified to teach at both levels. The number of years of teaching experience of the teachers ranged from zero to 35 years; the median number of years taught was 5.6 years. The subjects were selected from the population of currently employed teachers, and not from the more restricted population involving only teachers who are currently enrolled in graduate courses.

Instrumentation

Preference for models of teaching was measured by asking the teachers to rate how strongly they preferred summaries of each of 16 conceptual models of teaching. The summaries each consisted of a brief paragraph presenting the essential elements of one of 15 models of teaching discussed by Joyce and Weil (1972) or the lecture method of instruction. Table 1 briefly describes each model. The validity of the instrument, determined by inter-judge agreement, is reported by Thompson (1978). The teachers rated each summary by marking through an unbroken line drawn between the extremes of a sematic-differential

scale, "dislike-like." The distance of a mark from the end of the scale was then used to identify the rating for each summary (1 = completely dislike to 33 = completely like).

Insert Table 1 about here.

The characteristics each teacher believed an ideal teacher should possess were measured by using the Multiple Teacher Factor (MTF) Survey (Miller, et al., 1975). The instrument has performed stably in several studies, including studies by Thompson and Miller (1978) and Brown (1977, 1978, in press). The Survey asks subjects to rate how much each of 24 adjectives are descriptive of teachers they consider to be ideal. The instrument produces factor scores on four scales. The first scale measures attributes of teacher warmth and involves ratings on adjectives such as "caring," "warm," and "concerned." The second scale measures attributes of teacher scholarliness and involves ratings on adjectives such as "scholarly," "intelligent," and "analytical." The third scale measures attributes of teacher rigor and involves ratings on adjectives such as "exacting," "rigorous," and "profound." The fourth scale measures attributes of teacher potency and involves ratings on adjectives such as "simple," "easy," and "docile."

Philosophical beliefs were measured by using the Education Philosophy Index (EPI). Evidence regarding the construct validity of the EPI is

presented by Miller and Thompson (1979). The instrument asks teachers to rate how much they agree with each of 44 statements. Responses were coded one for "strongly disagree," two for "disagree," three for "agree," and four for "strongly agree." The EPI produces a factor score on each of six scales. The factor names and typical beliefs associated with each scale are presented in Table 2.

Insert Table 2 about here.

Results

Univariate statistics for the ratings of the 16 summaries of models of teaching are presented in Table 3. These results constitute the answer to the study's first research question. The teachers particularly liked or preferred the Classroom Meeting, Biological Science Curriculum Study (BSCS), Advance Organizer, Inductive, and lecture models of teaching. The teachers particularly disliked the Non-directive model of teaching.

Insert Table 3 about here.

The answer to the study's second research question was obtained by factor analyzing the teachers' ratings of the summaries. In essence, the procedure groups the summaries into categories based on the perceived relationships among the models, as reflected in the teachers ratings of

the summaries. Four categories were identified.

The first factor included summaries of the Group Investigation, Social Inquiry, Jurisprudential, Non-directive, Concept Attainment, and Inquiry Training models of teaching. The factor encompasses models of teaching which involve inquiry strategies.

The second factor included summaries of the BSCS, Synectics, Advance Organizer, Inquiry Training, and Inductive models of teaching. The factor appears to involve models which emphasize incisive understanding of a discipline or instructional content.

The third factor included summaries of the Awareness Training, Classroom Meeting, Laboratory Method, Developmental, and Non-directive models of teaching. The factor appears to involve models of teaching which have an affective orientation.

The fourth factor included summaries of the lecture, Operant Conditioning, Advance Organizer, and Concept Attainment models of teaching. The factor appears to involve models of teaching which emphasize a highly structured environment.

A canonical correlation analysis was conducted in order to address the study's third research question. Four pairs of statistically significant ($p < .05$) canonical variates were identified. The canonical correlations of the role-ideals and philosophy variables with the models of teaching factors were respectively .46, .42, .34, and .31. These results suggest that teachers preferences for summaries of conceptual models of teaching are substantially and systematically related to teachers' role ideals and philosophical beliefs.

Canonical structure and index coefficients were computed in order to achieve some understanding of the dynamics of these relationships (Thompson and Frankiewicz, in press). These coeffieients are presented in Table 4. A structure coefficient when squared indicates the percentage of variance which a variable linearly shared with an aggregate of the variables of its *own* set, e.g. — the models of teaching factors. An index coefficient when squared indicates the percentages of variance which a variable shared with an aggregate of all the variables of the *other* set.

Insert Table 4 about here.

Inspection of these coefficients suggests the following general conclusions. The first pair of canonical variates suggests that teachers

who ascribe characteristics of "impotency" to their role-ideals, disagree with the tenets of Progressivism, and are Existentialist in outlook, tend to dislike the models of teaching associated with the"incisive understanding" factor. The second pair of canonical variates suggests that teachers who ascribe characteristics of "impotency" and warmth to their role-ideals also tend to prefer the models of teaching associated with the "affective orientation" and "inquiry strategies" factors. The third pair of canonical variates suggests that teachers who disagree with the tenets of Essentialism also tend to dislike the "structured environment" models of teaching but tend to prefer the models of teaching associated with the "inquiry strategies" factor. The fourth pair of canonical variates suggests that teachers who ascribe characteristics of rigor to their role-ideals, disagree with the tenets of Progressivism, and agree with the tenets of Perennialism, also tend to dislike the "affective orientation" models of teaching but tend to prefer the models of teaching associated with the "structured environment" factor.

Discussion

The results of the study have three major implications for persons involved in educating teachers. The first implication stems from an analysis of the canonical index coefficients. It was suggested at the outset of the study that both role ideals and philosophical beliefs

should be related to preferences for models of teaching. The question now arises as to whether either the role-ideals or the philosophy variables accounted for a preponderant portion of the variance these variables shared with the models of teaching factors. This question can be addressed by squaring the Table 4 index coefficients, and then summing first the squares for the role-ideals variables and then the squares for the philosophy factors. A comparison of these four pairs of sums suggests that both sets of variables shared roughly the same proportions of variance with the models of teaching factors. This finding is somewhat surprising, because the models of teaching directly involve role behaviors, and it might be expected that role ideals should be more intimately related than philosophical beliefs with role behavior preferences. This suggests that educational philosophy may deserve more attention than it is typically afforded in some teacher education programs. Philosophical beliefs clearly represent an important aspect of the dynamics involved in teachers' decisioning regarding how they wish to teach.

The second implication of the study stems from an overview of study results. The results taken as a whole seem to indicate a preoccupation on the part of the teachers regarding basic skills

emphasis in education. This if reflected in the power to predict model preferences displayed by factors such as Essentialism, Perennialism, "exacting," and "potency." This is not to say that most of the teachers in the study were conservative with respect to basic skills issues. It is to say, however, that regardless of their individual stances with respect to basic skills issues, the teachers did make decisions substantially on the basis of whatever their stances were on these issues. This suggests that teacher educators may need to deal with basic skills issues when they try to persuade teachers to master or perhaps use certain pedagogical methods. The teachers might particularly want to hear evidence regarding how effective the methods are at promoting the basic skills growth of pupils.

Finally, the manner in which the teachers grouped the models of teaching may have significance for educational researchers. Soar (1978) has recently suggested that teacher effectiveness research might be more productive if researchers examined correlates of effectiveness within groups of teachers which are homogeneous relative to the teachers' instructional behaviors. The four models of teaching factors identified in this study might provide a framework within which such groupings might be made in future research.

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Table 1

Brief Model Descriptions

Model	Theorist	Basic Focus
Classroom Meeting	Glasser	Emphasis on self-understanding
Awareness Training	Schultz & Perls	Increase awareness of self and others
Developmental	Piaget, Sigel & Sullivan	Increase general intellectual development, especially reasoning
Laboratory Method	National Training Laboratory	Train to cope via encounter-like strategies
BSCS	Schwab	Teach modes of inquiry used in academic disciplines
Synectics	Gordon	Develop creative skills
Inquiry Training	Suchman	Teach theory building skills
Advance Organizer	Ausubel	Increase efficiency of information processing
Jurisprudential	Oliver & Shaver	Evaluate ideas in a judicial-type atmosphere
Inductive	Taba	Teach inductive mental processes
Social Inquiry	Massialas & Cox	Emphasis on mutual participation in inquiry into nature of society and its problems
Lecture[a]	---	Group presentation by teacher to students
Non-directive	Rogers	Develop self-understanding, self-concept
Group Investigation	Thelen & Dewey	Combined emphasis on social skills and academic inquiry
Operant Conditioning	Skinner	Shape learning using reinforcement schedules
Concept Attainment	Bruner	Teach nature of concepts and conceptual thought

[a]Not a Joyce-Weil model of teaching.

Table 2

Description of Philosophies

Philosophy	Representative Beliefs
Essentialism	There are certain essential facts that all men should master. Subject matter is at the center of the educational process. Learning is difficult.
Humanism	Impacts on people are what give ethical value to acts. People should be the focus of existence and must be treated with dignity.
Perennialism	Human nature is unchanging and is the same everywhere. Schools should teach unchanging principles through the study of the great works of literature and science.
Progressivism	Change is the essence of reality. Problem-solving skills are more important that the inculcation of content. Cooperation is emphasized.
Rationalism	Reason is what makes man special. Mental self-discipline and rationality are the keys to survival in a changing world.
Existentialism	The universe, absent man, would be meaningless. Each person, by choosing, creates reality. Each person must be allowed to find meaning.

Table 3

Model Preference Univariate Statistics

Summary	Statistic	
	Mean	Standard Deviation
Classroom Meeting	24.25	7.56
Awareness Training	17.42	9.14
Developmental	14.94	8.32
Laboratory Method	15.08	8.61
BSCS	21.96	8.60
Synectics	19.80	8.94
Inquiry Training	17.89	9.09
Advance Organizer	21.95	7.97
Jurisprudential	20.13	8.83
Inductive	21.58	8.22
Social Inquiry	18.12	8.70
Lecture	21.09	8.82
Non-directive	9.32	8.04
Group Investigation	16.03	8.16
Operant Conditioning	18.81	9.22
Concept Attainment	15.39	8.42

Note: 1=completely dislike,
33=completely like

Table 4

Structure and Index Coefficients

Variable Set	Factor	Coefficient							
		S	I	S	I	S	I	S	I
Model Summary	Inquiry Strategies	-.38	-.17	-.66	-.28	.49	.16	.43	.13
	Incisive Understanding	-.87	-.40	.03	.01	-.42	-.14	-.25	-.08
	Affective Orientation	.25	.11	-.70	-.29	-.17	-.06	-.65	-.20
	Structured Environment	.18	.07	-.28	-.12	-.75	-.25	.57	.18
EPI	Essentialism	.04	.00	.30	.12	-.61	-.20	.29	.09
	Humanism	-.25	-.11	-.36	-.15	.15	.05	-.06	-.02
	Perennialism	-.22	-.10	.08	.03	-.19	-.06	.46	.14
	Progressivism	-.50	-.23	-.34	-.14	-.18	-.06	-.48	-.14
	Rationalism	-.36	-.16	-.01	-.00	-.14	-.05	.21	.06
	Existentialism	.47	.22	-.20	-.08	-.34	-.11	-.15	-.04
MTF	Warm	.03	.00	-.46	-.19	-.38	-.13	-.20	-.06
	Scholarly	-.39	-.18	-.17	-.07	-.37	-.13	.07	.02
	Rigorous	-.31	-.14	-.26	-.11	.07	.02	.64	.19
	Impotent	.54	.25	-.62	-.26	.07	.02	.30	.09

Note: "S"=structure coefficient; "I"=index coefficient